In the Specification:

Please amend the specification as follows:

The paragraph on page 4, ln.16:

Figure 6 illustrates the core/shell approach to magnetic gold [[nanaparticles]]nanoparticles. Some different classes of nanoparticle cores include (A) metal oxide magnetic cores; (B) pure metal cores; and (C) alloy metal cores.

The paragraph on p.5, ln.32-p.6, ln.16:

In another aspect, the present invention provides for core/shell nanoparticle oligonucleotide conjugates, comprising a nanoparticle core, a gold shell surrounding the nanoparticle, and an oligonucleotide attached to the gold surface of the core/shell nanoparticle. Any suitable method for attaching oligonucleotides onto a gold surface may be used. A particularly preferred method for attaching oligonucleotides onto a gold surface is based on an aging process described in U.S. application nos. 09/344,667, filed June 25, 1999; 09/603,830, filed June 26, 2000; 09/760,500, filed January 12, 2001; 09/820,279, filed March 28, 2001; 09/927,777, filed August 10, 2001; and in International application nos. [[PCT/US97/12783]]WO 98/04740, filed July 21, 1997; [[PCT/US00/17507]]WO 01/00876, filed June 26, 2000; [[PCT/US01/01190]]WO 01/51665, filed January 12, 2001; [[PCT/US01/10071]]WO 01/73123, filed March 28, 2001, the disclosures which are incorporated by reference in their entirety. The aging process provides nanoparticle-oligonucleotide conjugates with unexpected enhanced stability and selectivity. The method comprises providing oligonucleotides preferably having covalently bound thereto a moiety comprising a functional group which can bind to the nanoparticles. The moieties and functional groups are those that allow for binding (*i.e.,* by chemisorption or covalent bonding) of the oligonucleotides to nanoparticles. For instance, oligonucleotides having an alkanethiol, an alkanedisulfide or a cyclic disulfide covalently bound to their 5' or 3' ends can be used to bind the oligonucleotides to a variety of nanoparticles, including gold nanoparticles.

The paragraph on p.8, ln.4-30:

In yet a further aspect the invention provides methods for the detection of a target analytes such as nucleic acids comprising contacting the core/shell nanoparticle oligonucleotide conjugates of the instant invention with a target nucleic acid sequence under conditions that allow hybridization between at least a portion of the oligonucleotides bound to the nanoparticle and at least a portion of the target nucleic acid sequence. In addition, protein receptors and other specific binding pair members can be functionalized with oligonucleotides and immobilized onto oligonucleotide-modified nanoparticles to generate a new class of hybrid particles (nanoparticle-receptor conjugates) that exhibit the high stability of the oligonucleotide modified particles but with molecular recognition properties that are dictated by the protein receptor rather than DNA. Alternatively, one could functionalize a protein that has multiple receptor binding sites with receptor-modified oligonucleotides so that the protein receptor complex could be used as one of the building blocks, in place of one of the inorganic nanoparticles, in the original nanomaterials assembly scheme discussed above. The use of these novel nanoparticle-receptor conjugates in analyte detection strategies have been evaluated in a number of ways including identification of targets and screening for [[ ]]protein-protein interactions. For suitable hybridization conditions for nucleic acid detection, and methods for preparing nanoparticle-receptor conjugates are described in U.S. application nos. 09/344,667, filed June 25, 1999; 09/603,830, filed June 26, 2000; 09/760,500, filed January 12, 2001; 09/820,279, filed March 28, 2001; 09/927,777, filed August 10, 2001; and in International application nos. PCT/US97/12783[[PCT/US97/12783]]WO 98/04740, filed July 21, 1997; [[PCT/US00/17507]]WO 01/00876, filed June 26, 2000; [[PCT/US01/01190]]WO 01/51665, filed January 12, 2001; [[PCT/US01/10071]]WO 01/73123, filed March 28, 2001, the disclosures which are incorporated by reference in their entirety. Once a core/shell nanoparticle conjugate of the invention binds to a target molecule, a change in the optical characteristics of the core/shell nanoparticle conjugates can be readily detected. In another embodiment the detection step is performed in the presence of an applied magnetic field which further enhances hybridization or binding of the nanoparticle conjugate with the target molecule such as a nucleic acid[[-]].

The paragraph on p. 8, ln.31-p.9, ln.13:

The invention further provides a method of nanofabrication based on the core-shell nanoparticle conjugates of the invention. Nanostructures and methods for prepare the materials from nanoparticles have been described in U.S. application nos. 09/344,667, filed June 25, 1999; 09/603,830, filed June 26, 2000; 09/760,500, filed January 12, 2001; 09/820,279, filed March 28, 2001; 09/927,777, filed August 10, 2001; and in International application nos. [[PCT/US97/12783]]WO 98/04740, filed July 21, 1997; [[PCT/US00/17507]]WO 01/00876, filed June 26, 2000; [[PCT/US01/01190]]WO 01/51665, filed January 12, 2001; [[PCT/US01/10071]]WO 01/73123, filed March 28, 2001, the disclosures which are incorporated by reference in their entirety. The method comprises providing at least one type of linking oligonucleotide having a selected sequence, the sequence of each type of linking oligonucleotide having at least two portions. The method further comprises providing one or more types of core/shell nanoparticles having oligonucleotides attached thereto, the oligonucleotides on each type of nanoparticles having a sequence complementary to a portion of the sequence of a linking oligonucleotide. The linking oligonucleotides and nanoparticles are contacted under conditions effective to allow hybridization of the oligonucleotides on the nanoparticles to the linking oligonucleotides so that a desired nanomaterials or nanostructure is formed.